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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,062	01/21/2004	Osamu Inoue	10873.1393US01	4596
23552	7590	06/28/2005	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			SAMPLE, DAVID R	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/762,062

Applicant(s)

INOUE ET AL.

Examiner

David Sample

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-17 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20040302.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claim 3 is objected to because of the following informalities:

Claim 3 does not end in a period.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The use of the term “preferably” in claim 2, last line, renders the claim indefinite because the claim is unclear as to whether the recitation which follows is an express limitation of the claim, or only exemplary.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 63-328800 ('800).

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JP '800 discloses a metal oxide catalyst comprising an alumina support, copper and a metal oxide of niobium oxide (among various metals). See the translated abstracts.

The reference differs from the claims by disclosing copper oxide mixed with a multiplicity of metals including niobium. However, it would have been obvious to one of ordinary skill in the art to have selected any of the metal oxides disclosed by the reference including niobium oxide because the reference discloses including niobium oxide in the ceramic catalyst.

Claim 6 is rejected because it appears to apply only when auxiliary component B is employed, and there is nothing that requires that component B be used.

As to claims 9-12, one of ordinary skill in the art would expect that the ceramic of the reference would have the recited properties in view of the reference suggestion of the claimed ceramic.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alford et al. (US Patent No. 6,610,623).

Alford et al. discloses an alumina ceramic containing one or more dopants selected from CuO, Nb<sub>2</sub>O<sub>5</sub> and TiO<sub>2</sub> (among others). See col. 7, lines 28-38, 40-45.

Claim 6 is rejected because it appears to apply only when auxiliary component B is employed, and there is nothing that requires that component B be used.

As to claims 9-12, one of ordinary skill in the art would expect that the ceramic of the reference would have the recited properties in view of the reference suggestion of the claimed ceramic.

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The reference differs from the claims by disclosing copper oxide and niobium oxide among a list of dopants. However, it would have been obvious to one of ordinary skill in the art to have selected any of the metal oxides disclosed by the reference including niobium oxide because the reference discloses including niobium oxide in the ceramic catalyst.

***Allowable Subject Matter***

Claims 15-17 are allowed. The prior art fails to disclose or suggest a substrate containing an internal layer comprising alumina as a principle component and auxiliary component A or auxiliary component B.

***Conclusion***

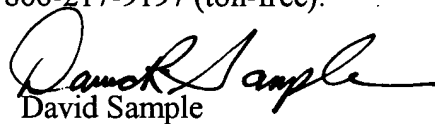
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (572)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "David Sample", is written over the printed name.

David Sample  
Primary Examiner  
Art Unit 1755